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INTERNATIONAL ERGONOMICS ASSOCIATION  
ACTIVITIES AND CONSTITUENT SOCIETIES

Prepared for

U. S. Army Human Engineering Laboratory

U. S. Army LABCOM  
Contract No. DAAL02-87-P-3326

by

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May 1988

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# ABSTRACT

This report explains the organization and activities of the International Ergonomics Association. IEA is an association of national and regional societies. The activities of the constituent societies is surveyed and a list of people responsible for communicating between the IEA and the various constituent societies is provided. Ergonomics societies not formally joined to the IEA have been included to give a picture of the current state of organizations for ergonomics world wide. The character of information available on the societies' activities varies greatly. The addresses for the societies and individuals included are as current as was possible.

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The purpose of the International Ergonomics Association is to bring together organizations and persons concerned with ergonomics or human factors. It promotes the knowledge and practice of ergonomics on an international basis and cooperates with international associations to encourage the practical application of ergonomics in industry.

When originally founded the IEA was composed of individual members. After about a decade of growth in ergonomics as a profession, and the establishment of many national societies, IEA was transformed into an association of organizations rather than individuals. Members are the federated ergonomics societies of the following countries: Australia, Austria, Canada, Federal Republic of Germany, France, Hungary, Italy, Japan, The Netherlands, Poland, United Kingdom, United States and Yugoslavia. Two regional societies are also federated to IEA, the Nordic Ergonomics Society including Denmark, Finland, Norway, and Sweden, and the South-East Asian Ergonomics Society including Brunei, Indonesia, Malaysia, Thailand, Singapore and the Philippines. (See the appendix for a separate paper discussing the IEA's origins.)

In addition to federated societies, IEA recognizes three additional categories of membership: Affiliated Societies, Associated Societies, and Sustaining Members.

Affiliated Societies are organizations with an interest in ergonomics but which have their main aim in an associated area or are ineligible for Federated Member status because there is already a Federated society for their area.

Associated Societies are international organizations that have an interest in ergonomics.

Sustaining Members are organizations that have an interest in the Association and support it by an annual subscription.

This report identifies societies that are affiliated with IEA, and many national or regional ergonomics societies that have not yet formed a relationship with IEA. See the lists below for the names and addresses of the federated and other societies.

IEA holds a triennial congress. The 1988 congress will be held 1-5 August 1988 in Sydney, Australia. In 1991 the congress will meet in Paris, France.

The ninth triennial congress, held at Bournemouth, England in 1985 had 587 delegates from 32 countries. The technical proceedings included 390 papers.

FIG 1  
IEA CONGRESSES  
DATES AND PLACES

<u>NR</u>	<u>DATE</u>	<u>PLACE</u>
1st	1961	Stockholm, Sweden
2d	1963	Dortmund, Germany
3d	1967	Birmingham, United Kingdom
4th	1970	Strasbourg, France
5th	1973	Amsterdam, Netherlands
6th	1976	Baltimore, Maryland
7th	1979	Warsaw, Poland
8th	1982	Tokyo, Japan
9th	1985	Bournemouth, United Kingdom
10th 1-5 Aug ust	1988	Sydney, Australia

IEA is governed by a General Council made up of the officers of the Association and the representatives of Federated Societies. Each society with more than 50 but less than 500 voting members designates one member of the Council. Societies with 500 to 1,000 members designate two Council members, and societies with over 1,000 members designate three members for the Council.

The Council must meet at least annually according to the IEA rules, and is normally called at the President's request or at the request of a simple majority of the members. Council meetings are held at various times and in various places, usually in conjunction with some larger technical meeting of interest to ergonomists. Because of the problems of international travel, Council members can send alternative representatives to meetings from within their national society if they are unable to attend.

The Council elects all new members of the Association in any category. The Council elects the officers of the Association.

#### CURRENT IEA OFFICERS

PRESIDENT: Harry Davis, United States

SECRETARY: Ilkka Kuorinka, Finland

TREASURER: Brian Shackel, United Kingdom

IEA has five standing committees:

CHAIRMAN, POLICY AND PLANNING COMMITTEE: Mr Ian Noy

CHAIRMAN, INTERNATIONAL RELATIONS AND AWARDS COMMITTEE:  
Mr Harry Davis, United States

CHAIRMAN, SCIENCE AND TECHNOLOGY COMMITTEE: Dr Hal Hendrick

CHAIRMAN, EDUCATION AND TRAINING COMMITTEE: Mr Pieter Rookmaaker

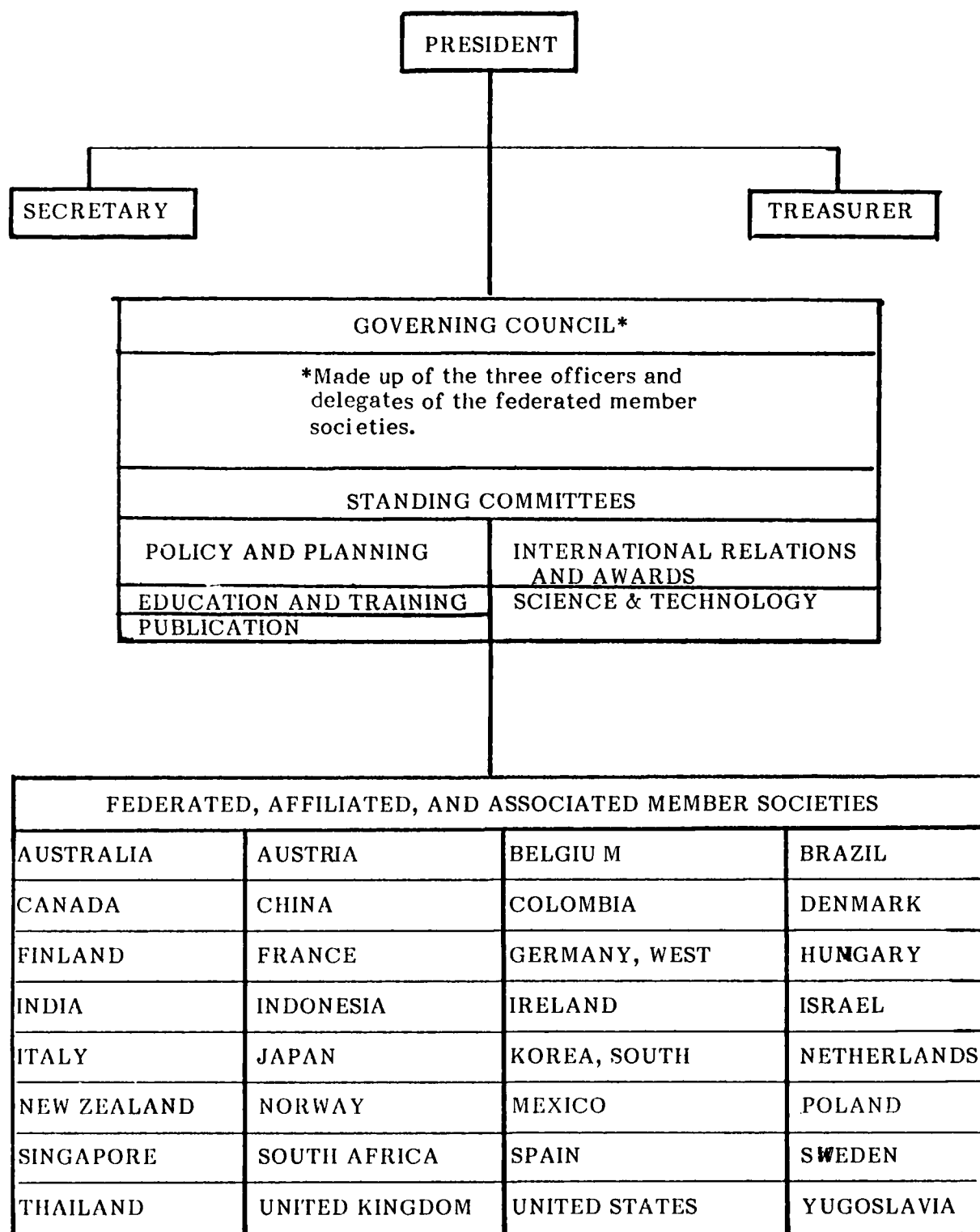
CHAIRMAN, PUBLICATION: Dr Walter Kleeman

See below for a list of the members of each of the sub-elements of the Science and Technology Committee



FIG 2

## IEA OFFICERS AND ORGANIZATION



CHAIRMAN, CONFERENCE SECRETARIAT: Roger Hall, Australia

## SYMPOSIA

In addition to the triennial international congresses, IEA sponsors joint international conferences organized by its member federated societies and lends support to smaller conferences and symposia. Examples of joint conferences and symposia include:

International Symposium on Sitting Posture, held in Zurich in 1968;

International Symposium on Physiological and Psychological Criteria for the Study, Design, and Validation of Man-Machine Systems, held in Amsterdam in 1969;

International Symposium on Ergonomics and Standards held at Loughborough University in April, 1973, in conjunction with the British Standards Institute;

International Conference on Ergonomic and Medical Aspects of Modern Office Jobs, held in Turin in 1983;

1st International Conference on Occupational Ergonomics, organized by the Human Factors Association of Canada and the Human Factors Society, held in Toronto in 1984;

1st International Symposium on Human Factors in Organizational Design and Management held in Honolulu in 1984, and the 2nd International Symposium on Human Factors in Organizational Design and Management held in Vancouver in 1986, organized by the Human Factors Society;

International Symposium on Ergonomics in Developing Countries, held in Jakarta in 1985, organized by the Indonesian Government and the Indonesian Human Resources Foundation, in cooperation with the World Health Organization, the International Labor Office, and the South-East Asian Ergonomics Society.

## STANDARDS

IEA cooperates with the International Standards Organization in the work of ISO Technical Committee 159, the committee responsible for ergonomics standards. See the list of members on the IEA Standards Committee below. Currently TC 159 is administered by the Deutsches Institut für Normung in Berlin. The work of that committee includes: basic standards related to fundamental characteristics of man; functional standards related to human factors in the operation or use of equipment, processes, products or systems; environmental standards related to the effects of physical factors of the environment on man; standards for ergonomic test procedures and for processing ergonomic data; coordination with ISO technical committees and cooperation with other organizations in the field of ergonomics.

## IEA SCIENTIFIC AND TECHNICAL COMMITTEE MEMBERS

## CHAIR

Hal Hendrick (U.S.A.)

## AGING

Antoine Laville (France)  
Arnold Small (U.S.A.)  
Tetsuo Tokuda (Japan)  
Ulrika Wallersteiner, (Canada): Chair  
Takuko Yanase (Japan)

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Jean-Claude Sperandio (France)  
L. Verhoef (Holland)  
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Sakae Yamamoto (Japan)

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A. deKoning (Holland)  
Jack Laveson (U.S.A.)  
Torao Onomure (Japan)  
Roger Rebiffe (France)  
Ron Wardell (Canada)  
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Amitabha De (India)  
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Teresa Jacovone (Italy)  
P. Paymans (Holland)  
Richard Pearson (U.S.A.)  
Nils Petersson (Sweden)  
Huushang Shanava (Sweden)  
Murray Sinclair (U.K.)  
Geoffrey Wright (Canada)

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I. Brown (U.K.)  
X. Cuny (France)  
Amitabha De (India)  
Denis Giguere (Canada)  
A. Hale (Holland)  
Charles Overby (U.S.A.): Chair  
Jean-Jacques Vogt (France)  
Geoffrey Wright (Canada)  
Kazuyoshi Yajima (Japan)

## STANDARDS

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Martin Helander (U.S.A.): Chair  
Sadao Horino (Japan)  
Goran Olsson (Sweden)  
Kageyu Noro (Japan)

## TECHNOLOGY TRANSFER (INDUSTRIALLY DEVELOPING NATIONS)

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Kazutaka Kogi (Thailand)  
Najm Meshkati (U.S.A.): Chair  
Houshand Shahnava (Sweden)  
Ulrika Wallersteiner (Canada)  
Alaine Wisner (France)  
Z. Zander (Holland)

## TRAINING

Dorothy Finley (U.S.A.)  
Irwin Goldstein (U.S.A.)  
D. Kraneveld (U.S.A.)  
Lochlan Magee (Canada)  
Yuko Nagasawa (Japan)  
Wolfgang Schultetus (F.R.Germany)

## ORGANIZATIONAL DESIGN AND MANAGEMENT

John Arnott (Canada)  
Sabastiano Bagnara (Italy)  
Ogden Brown (U.S.A.)  
Vukan Bulat (Yugoslavia)  
Francois Daniellou (France)  
Susan Drey (U.S.A.)  
Di Gregorio (Italy)  
Jefferson Koonce (U.S.A.)  
T. Lenior (Holland)  
Sergio Micheli (Italy)  
Maurice Montmollin (France)  
Francesco Novara (Italy)  
Tapis Sen (U.S.A.)  
Hideo Tanaka (Japan)  
J. Wilson (U.K.)  
Yashimi Yokomizo (Japan)

SOCIETIES FEDERATED TO IEA

7

Australia: Ergonomics Society of Australia  
Austria: Österreichische Arbeitsgemeinschaft für Ergonomie  
Canada: Human Factors Association of Canada  
Denmark: see Norway  
Federal Republic of Germany:  
    Gesellschaft für Arbeitswissenschaft  
Finland: see Norway  
France: Société d'Ergonomie de Langue Française  
Hungary:  
    Hungarian Society for Organization and Management Science  
Italy: Società Italiana di Ergonomia  
Indonesia: South-East Asian Ergonomics Society  
Japan: Japan Ergonomics Research Society  
The Netherlands: Nederlandse Vereniging voor Ergonomie  
Norway: Nordic Ergonomics Society  
Poland: Polish Ergonomics Society  
Sweden: see Norway  
Thailand: see Indonesia  
United Kingdom: Ergonomics Society  
United States of America: Human Factors Society  
Yugoslavia:  
    The Association of Ergonomics Societies of Yugoslavia

## OTHER SOCIETIES

Belgium: Belgian Ergonomics Society

Brazil: Brazilian Ergonomics Association--affiliated to IEA

China: Chinese Ergonomics Group

Colombia: Colombian Ergonomics Association

Denmark: Selskab for Arbejdsmiljø

India: Indian Society of Ergonomics

Ireland: Irish Ergonomics Group

Israel: Isreal Ergonomics Society

Japan: Human Ergology Society

Korea: Korean Ergonomics Society

Mexico: Association Mexicana de Ergonomia

New Zealand: New Zealand Ergonomics Socceity

South Africa: Ergonomics Association of Southern Africa

Singapore: Singapore Ergonomics Society

Spain: Spanish Society of psychology, Ergonomics Section

## NATIONAL &amp; REGIONAL ERGONOMICS SOCIETIES

Association Mexicana de Ergonomia AC  
Javier Castellanos, Secretario Ejecutivo  
Periferico Sur 4271  
Mexico 20 DF  
Mexico

\*\*\*

Belgian Ergonomics Society  
Rectorate, Universiteitsplein 1  
2610 Antwerp  
Belgium

Phone: 03/828.25.28  
Founded: 1986

The Belgian Ergonomics Society was founded in March 1986, intended to promote ergonomics as a multidisciplinary activity. The goals of the society are to promote research on man-machine-environment systems in the broadest sense, distribute the knowledge supporting application of ergonomic results, serve as a contact point with organizations and institutions interested in these issues, and represent Belgium internationally in ergonomics.

The society is composed of a Dutch speaking section and a French speaking section. Organizations as well as individuals may seek membership in the society.

\*\*\*

Brazilian Association of Ergonomics  
Reinier J.A. Rozestraten  
Rua Imbuia 189 | Jardim Recreio  
14040 Ribeirbo Prjto  
SP Brazil

Phone: 016 634 6255  
Founded: 1983  
Members: 99

The Brazilian Ergonomics Association was founded in November 1983. In 1985 the group had 99 members. In December 1986 the election results were announced for the new board members of the Association to serve for two years:

Reinier Johannes Antonius Rozestraten, Chairman  
Leda Leal Ferreira, Vice Chair  
Frida Marina Fischer, Financial Director  
Beatriz Pereira Lima, Administrative Director  
Regina Heloisa Maciel, Technical Director

The association's principle aims are to consolidate and invigorate this young and inexperienced society. They are seeking assistance to develop more and better centers of study, research and application of ergonomics. They would welcome interchange of experience and research with both developed and developing countries, especially on ways to sensitize people to ergonomics.

During 1985 the Centro Brasileiro de Ergonomia e Cibernetica (CEBERC), of the Institute Superior de Estudos, Fundacao Getulio Vargas, in Rio de Janeiro, published three booklets: "Sociotechnical Analysis" (discussing agricultural productivity in sugar cane plantations), "Work Accident Analysis" (discussing risk diagnosis in sugar cane agriculture), and "Information Machines" (written for experts in the field of human systems, discussing the problem of the machine as a model of the human mind). The booklets are published in Portuguese and are available from Professor Lenice da Silveira, CEBERC, Rua da Candelairia, 6-40 andar, Rio de Janeiro RJ, Brazil, CEP-20.091.

In 1986, the association convened a "mini-congress" in conjunction with the Brazilian Society for Scientific Progress, and announced the intention to publish the proceedings. The 3rd Brazilian Seminar on Ergonomics and the 1st Latin American Congress was scheduled for December 1987 in Sao Paulo. The theme was to be the interdisciplinary aspects of ergonomics, with discussions of integrating different professionals in ergonomics research, thereby increasing interest in possible contributions of ergonomics.



\*\*\*

Chinese Ergonomics Group  
 Professor Chen-Y-Ran  
 Head of Ergonomics  
 Nanjing Aeronautical Institute  
 Jiangsu Province  
 Nanjing, China

\*\*\*

Colombian Ergonomics Association  
 (Comite ProAsociacion Colombiana de Ergonomia)  
 Fernando Camacho Acevedo  
 Comite ProAsociacion Colombiana de Ergonomia  
 Apartado Aéreo No. 094802  
 Bogotá, 8  
 Colombia

Comite Pro-Asociacion Colombiana de Ergonomia, headed by Fernando Camacho-Acevedo as Secretary General, is trying to establish a new association, with the goals of implementing investigation and information programs for the dissemination of ergonomics. One of the first objectives is to set up a specialized library. They would welcome international exchange of information, especially bibliographies and details of post-graduate courses.

\*\*\*

Ergonomics Association of Southern Africa  
 Brian Hill  
 Design Institute|Private Bag X191  
 Pretoria 001  
 South Africa

The Ergonomic Association of Southern Africa held its first annual conference in February, 1985, in Pretoria. Although the title of the society suggests a wider constituency than a national membership, the 106 participants at the first meeting were all from the Republic of South Africa. The proceedings were issued by the Design Institute of the South African Bureau of Standards, Pretoria.

The proceedings of the second annual conference included 38 papers, including 5 on biomechanics and anthropometry, 5 on ergonomics in developing countries, 3 on "Hi Tech Design for the Disabled," 2 on information technology, and 3 on new directions in furniture design. The society intends to publish a journal, Ergonomics SA, in three issues per year, January, July, and an issue for the proceedings of the annual meeting. The editorial board will consist of a general editor and specialist editors for physiology and biophysics, psychology and human performance, applications, and education and information. Authors may write in the language of their choice but must include abstracts in English and Afrikaans.

\*\*\*

Ergonomics Research Society of Japan  
Kageyu Noro  
Nihon University|30-1 Oyaguchi-Kamimachi  
Itabashiku, Tokyo 173  
Japan

Phone: 03 974 9131

The Japanese Ergonomics Research Society was founded in 1963. In 1986 the society had 1379 members, seven local chapters and nine technical interest groups (clothing, aviation, rehabilitation, environment, safety, industrial design, method, and standardization).

The members of the society are from various research fields in engineering, medical science, home economics, psychology and social science. The research papers presented at the annual meeting reflect this broad range of interests.

\*\*\*

Ergonomics Society  
Rod Graves, Secretary  
University of Technology  
Loughborough, LEIC LE11 3TU  
England

Phone: 0509 234904

The Ergonomics Society, established in the United Kingdom in 1950, was the first society to use the name "ergonomics." During the initial organizing phase in late 1949, the group used the name "Human Research Society." Many of the organizers were working with military organizations, and the emphasis of the early meetings was to continue the wartime collaboration between various disciplines relevant to studies of working conditions.

After a meeting of the "Human Research Society" at Oxford in January, 1950, a mail poll was taken in which 25 members voted for the name Ergonomics Research Society and 14 members voted for the name Human Research Society. Ergonomics had been originally suggested by Hywell Murrell, coined from the greek terms "ergos"--work and "nomos"--natural laws. Although many argued that the term was ugly, it had the intended virtue of not implying that any one academic discipline was more important than any other in the study of work.

The original intention was for the Ergonomics Research Society to conform to the pattern of learned societies, with scientific meetings for the discussion of research results. The group also harbored the strong opinion that results of their work must be communicated to industry, so a conference was organized on "Human Factors in Equipment Design." Held in April, 1951, the meeting was attended by 145 people, including four from Sweden, five from the United States, one from Holland and one from Denmark. The international character of the society was set by this meeting, as the group agreed to admit members from outside the United Kingdom. The goal of communicating to industry was less successful. The presentations were couched in scientific terms rather than in terms of applications and the resulting improvements for industry. The tension between scientific rigour and demonstrating industrial effects continues to be an important issue in communicating the benefits of ergonomics.

In 1957 the firm of Taylor & Francis Ltd. began publishing the journal Ergonomics as a vehicle for communicating the research of the society. The journal has always been the official publication of the British society, and the editor-in-chief is an ex-officio member of the Council of the society. However, Taylor & Francis stipulated that they wanted an international editorial board from the beginning, and thus Ergonomics has always been an international journal. From the beginning, two-thirds of the sales of the journal were outside Britain. In 1961, the journal became the official publication of the International Ergonomics Association and in 1963 the Nederlandse Vereniging voor Ergonomie also accepted the journal as its official publication.

Ergonomics Society membership in 1986 was 790.

\*\*\*

Ergonomics Society of Australia  
Bill Embling, General Secretary  
Clunies Ross House|191 Royal Parade  
Parkville, Victoria 3052  
Australia

Phone: 03 347 2570

The Ergonomics Society of Australia was founded in 1966, composed primarily of academic members. Until the separate New Zealand society was founded in 1985, the Australian society was called the Ergonomics Society of Australia and New Zealand.

Membership in the society had grown from 78 in 1967 to 339 in 1983. Then by 1986 the membership doubled to more than 700, due partly to national interest in repetitive strain injury in computerized work. Of these 700 members, perhaps 200 would be classified as professional ergonomists.

In 1976, the society surveyed the professional background of its members and compared the data with information on the Human Factors Society in the United States and the Ergonomics society of Japan. The Australian society traditionally drew its largest membership from the fields of engineering work study, medicine, and psychology. In 1976 the preponderance of these professions had eroded only a bit with the entry of members from the "paramedical professions" (nurses, therapists, pharmacists), and the design, management, and safety professions. Whereas psychologists comprised half of the membership of the USA Human Factors Society in 1976, the Australian and Japanese societies included only about 10% psychologists. Medical people made up the second largest group in both the Japanese and Australian societies, but the society in the United States included almost no medical people. In 1976, many of the members of the USA Human Factors Society identified themselves as professionally trained ergonomists, while almost no members of the Japanese and Australian societies identified their background as ergonomics.

Papers presented at conferences of the Australian society tend to be philosophical or informative reviews rather than reports of original research. While the meetings are interdisciplinary, research relevant to ergonomics is carried out within traditional fields and is published in journals from those disciplines, or may often be published in the journals Ergonomics or Human Factors.

The society has sponsored various training short courses and seminars in industry, often in conjunction with other organizations such as the Productivity Promotion Council of Australia and the Australian and New Zealand Society of Occupational Medicine.

\*\*\*

Gesellschaft für Arbeitswissenschaft  
Herbert Scholz, Professor  
Geschdfstelle, Ardeystrasse 67  
4600 Dortmund 1  
Federal Republic of Germany

Phone: (0231) 124243

The GfA was founded in 1952 at Nuremberg. The original purpose of the society was promoting research, with a special emphasis on supporting cooperation between occupational health, work psychology, occupational training, work technology and industrial sociology. In 1986, the society had 550 members.

Each year GfA organizes two congresses. The "Springtime Congress" is for communicating research results, while the "Autumn Conference" is for discussion of practical problems. There has been an average of 270 participants at the springtime congresses over the last 25 years, with the attendance well above average in the 1980's. The 1981 congress participants were distributed among the following categories:

Universities and other research institutes	187
Private enterprises	97
Governmental institutions	18
Politicians	4
Association of employers and deputies	33
Trade Unions	8
Others	22

Universities and research institutes have provided 60% of the speakers at the springtime congresses, with the other 40% coming from industries, public enterprises, trade unions, and employers associations.

GfA publishes Zeitschrift für Arbeitswissenschaft four times a year. The journal is abstracted with authors's addresses in Ergonomics.

\*\*\*

Human Ergology Society  
Haruhiko Sato  
Department of Ergonomics  
Kyushu Institute for Design Research  
4-9-1 Shiobaru, Minami-Ku  
Fukuoka City 815  
Japan

\*\*\*

Human Factors Association of Canada  
Ulrika Wallersteiner, President  
Leslie Buck, Secretary  
P.O. Box 1085 Station B/CP 1085|Succursale B  
Rexdale, Ontario M9V 2B3  
Canada

Phone: 416/678-1316  
Founded: 1968  
Members: 254

Formed to promote professional communication, standards, and opportunities among the multidisciplinary group of research workers and practitioners of human factors in Canada. Members include ergonomists, engineers, medical practitioners, safety specialists, research scientists, architects, designers, educators, managers, and union organizers. Convention: annual; 14-17 October 1987, Montreal, Canada.

\*\*\*

Human Factors Society  
Marian Knowles, Executive Administrator  
Julien M. Christensen, President  
P.O. Box 1369  
Santa Monica CA 90406

Phone: 213/394-1811  
Founded: 1957  
Members: 4330

Publishes Human Factors Society Bulletin 12 times a year.

Publishes Human Factors 6 times a year.

A professional organization of psychologists, engineers, physiologists, and scientists who are interested in the human factors implications of systems design. The association's purpose is to achieve compatibility in the design of interactive systems of people, machines, and environments in order to assure their effectiveness, safety, and ease of performance. Convention: annual;  
October 1987 New York, NY; 1988 Anaheim, CA;  
1989 Denver, CO; 1990 Orlando, FL.

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Hungarian Society for Organization and Management Science  
Gyula Berczi, Secretary General  
1368 Budapest VI  
Ankerkoz 1-3  
Hungary

Publishes Ergonomia 4 times a year.

\*\*\*

Indian Society of Ergonomics  
Professor R. N. Sen  
11A Mohan Bagan Lane  
Calcutta 700 004  
India

\*\*\*

Irish Ergonomics Group  
Tim Gallwey  
Department of Mechanical and Production Engineering,  
National Institute for Higher Education  
Limerick, Ireland

phone: 061 333644

\*\*\*

Israel Ergonomics Society  
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Korean Ergonomics Society  
Kyou H. Rhyi  
30 Gyurongi-Dong  
Jongro-ku, Seoul  
Korea

Founded: 1982

Members: 200

Publishes Journal of the Human Engineering Society of Korea  
2 times a  
year.

The society was formed in 1982 and has 200 members  
representing a broad spectrum of disciplines including  
engineering, industrial design, psychology, physiology,  
medicine, sports, and home economics.

The society publishes its journal biannually and accepts  
submissions in English. In addition to the usual research  
and technical reports, the journal also publishes pedagogic  
notes, short articles and essays.

\*\*\*

Nederlandse Vereniging voor Ergonomie  
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Postbus 5665  
1007 AR Amsterdam  
The Netherlands

\*\*\*

New Zealand Ergonomics Society  
Carol Slappendel, Secretary  
840 Tremaine Avenue  
Palmerston North  
New Zealand

Phone: 063 62 311  
Founded: 1986

Until the founding of the separate New Zealand Ergonomics Society, ergonomists in New Zealand were represented by a joint society with Australia. The inaugural meeting of the New Zealand Ergonomics Society was held in February, 1986, and the first conference was held in February, 1987. The society also supported sessions on ergonomics at the 56th meeting of the Australian and New Zealand Association for the Advancement of Science, held at Massey University, Palmerston North, New Zealand, in January 1987. The society publishes a newsletter, "Ergonomics New Zealand."

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Nordic Ergonomics Society  
Elsa Humble  
Sleipnervdgen 43  
S-13642 Handen  
Sweden

Publishes Nordisk Ergonomi 4 times a year.

This organization includes Denmark, Finland, Norway, and Sweden and actively promotes the dissemination of information on ergonomics research and applications.

The Finnish Ergonomics Bulletin is published five times a year by the Ergonomics Group of the Finnish Institute of Occupational Health. The Ergonomics Group was founded in 1968 and began publishing the Bulletin in 1971. Circulation of the Bulletin is approximately 2,000, but some issues reach a wider audience. The majority of the subscribers are large industries, vocational schools, communal and occupational health centers, insurance companies, banks and trade unions. The Bulletin is intended to provide ergonomic



information for designers, industrial engineers and occupational safety and health professionals. Each issue of the Bulletin is a separate entity, focused on a particular theme, and providing design guidelines and the necessary background on human physiology and psychology to explain the principles. The combined contents of all the issues dating back to 1971 form an extensive handbook on ergonomics in the Finnish context. Recent issues of the Bulletin have focused on "Manual lifting in restricted places," "Standards and check lists for designers," "Automatic machines and ergonomics," "Ergonomics in hospitals," "Effective use of colors on visual display screens," "Improvement of instruction manuals for microcomputers," and "Human Factors in implementation of new technology in manufacturing."

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Osterreichische Arbeitsgemeinschaft f|r Ergonomie  
 Andreas Weiss, Executive Secretary  
 Theresianumgasse 27  
 A-1040 Wien  
 Austria  
 Founded: 1975  
 Members: 40

The OAE has 40 dues paying members and 50 extraordinary members. As of 1987 the society had organized 60 individual lectures, two 1-day and six 2-day meetings, and ten excursions for its members to inspect industrial plants and research organizations where interesting ergonomic solutions were demonstrated.

The initiative for founding the society came from the Institut fur Arbeitswissenschaft at the Technische Universitat Wien. The Institut proceeds with both research and instruction in close cooperation with representatives of the Austrian economy. The society was originally intended to serve as a platform for furthering the cooperation of work science and the economy. Every two years the society presents the "Preis fur menschengerechte Arbeitsgestaltung," an award of S50,000 (approximately US\$4,000) for practical ergonomic solutions, in conjunction with the Allgemeine Unfallversicherungsanstalt (General Accident Insurance Company) and the Austrian associations of employees and employers.

\*\*\*

Polish Ergonomics Society  
Jan Rosner  
Narbutta 15m.1  
02-536 Warszawa  
Poland

Phone: 49 63 76

The Polish Ergonomics Society has organized several seminars for lecturers on ergonomics at the Universities and other higher schools. The third of these seminars was held in 1986 at the Poznan Polytechnical School, Institute of Organization and Management. The subject of the seminar was textbooks and scripts for students. The Poznan Polytechnical School presented a textbook of over 500 pages. Lecturers from six other schools spoke about their scripts and teaching materials. Six invited papers were also presented on the state of health of the Polish population, general problems of social and human development, as well as ergonomic issues in architecture, design, and the development of computer systems.

The Wroclaw section of the Society organizes a yearly conference. In 1986 the meeting was devoted to fatigue and was attended by representatives from research at universities in Krakow, Warsaw, Poznan, Gdansk, Ldaz, Sosnowiec and Bialystok, as well as representatives of management from industrial enterprises.

In addition to the activities of the Polish Ergonomics Society, the Polish Academy of Sciences has a Committee on Ergonomics. In 1986 the Committee of the Academy organized a session at Cracow University to review work at various research centers. The bulk of the activity reported was from the Department of Work psychology of the Cracow University, the leading research unit for ergonomic psychology in Poland.

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Selskab for Arbejdsmiljø  
Frank Georg, Chairman Ingeniorhuset  
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Singapore Ergonomics Society  
C. N. Ong  
Department of Social Medicine and Public Health  
National University of Singapore  
Lower Kent Ridge Road  
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Republic of Singapore

Founded: 1987

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Societa Italiana di Ergonomia  
Marco Fregoso  
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SIE will hold its fourth National Congress in 1988. The proceedings will emphasize industrial ergonomics and the service industries, as well as new areas for the application of ergonomics.

The society had planned three seminars for late 1987, one on the progress of the Human Factors of Information Technology activities in the CEE/ESPRIT project, one on industrial medicine, and one on office systems design and the environment. A one day workshop was also planned for presenting the initial findings of research at the Italtel Company on the application of an ergonomic methodology to work organization.

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Societi d'Ergonomie de Langue Frangaise  
Laboratoire de Physiologie|CHU Cote de Nacre  
F-14032 Caen Cedex  
France

SELF will host the IEA Congress in 1991. One goal for 1987 was the organization of a conference for the young ergonomists of Europe, intended to promote informal contacts and exchange across the national boundaries of Europe.

SELF publishes a News Bulletin every two months. The January 1986 issue reported discussions at the preceeding annual conference as to whether to introduce a register of approved professional ergonomists.

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## South East Asian Ergonomics Society

A. Manuaba

Founded: 1984

Members: 92

SEAES, founded in 1984, had 92 members as of April 1987, 29 from Indonesia, 4 from Malaysia, 30 from Thailand, 3 from Singapore, 7 from the Philippines, 5 from India, and 1 or 2 from eight other countries including Brunei. In addition to promoting research and communication among the professional members, a major goal of the society is advancing practical applications.

On Bali, a number of villages are participating in a program with the staff and students of the University of Udayana, to improve workplace arrangements in their cottage industries and agriculture. New work stations allowing natural postures and efficient work have been introduced in metalworking, ceramics, and weaving. Materials handling and improved tools have been introduced into farm work.

SEAES is now a joint publisher with the Human Ergology Society of Japan for the Journal of Human Ergology (published in English).

The society hosted the International Symposium on Ergonomics in Developing Countries at Jakarta, Indonesia, in November 1985. The symposium was jointly sponsored by IEA and the Indonesian government. The meeting was attended by over 200 participants from 35 countries. The technical proceedings included 90 papers.

The society is holding its second conference 27-29 July, 1988 on Bali, Indonesia, in cooperation with the Indonesian Physiological Society and the Department of Physiology of Udayana University. The meeting will be an associate conference with the tenth triennial congress of the IEA in Sydney 1-5 August, 1988.

Special attention in the scientific program will be given to research and application of ergonomics to developing countries. Four major themes will be covered: rural/village ergonomics, inter-country differences in ergonomics applications, education and training for ergonomics, impacts of new technologies. Contributions were sought for research reports, case studies, and reviews.

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Spanish Society of Psychology: Ergonomics Section  
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Instituto Nacional de Psicologia, Aplicada y Psicotecnica  
Juan Huarte de San Juan  
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Spain

\*\*\*

Yugoslav Ergonomics Society  
V.P. Bulat  
27 Marta 80  
11000 Beograd  
Yugoslavia  
Founded: 1973  
Members: 52

The Yugoslav Ergonomic Society was founded in 1973. The society had 52 members from various scientific disciplines including psychology, physiology, engineering, medicine, sociology, anthropology, ecology, safety and management. A major emphasis of the society is close cooperation in the multidisciplinary development of ergonomics. A cybernetic perspective is evident in the title for the biennial conference sponsored by the Yugoslav society, "Man-Machine, systems and environment." The society also organizes symposia in cooperation with scientific and professional organizations of psychologists, mechanical engineers, and physicians. A new journal is planned with the title "Man-Machine and the Environment."

Individuals and Research Centers in Communication with  
the International Ergonomics Association

The following list of people or research centers was gleaned from the mailing list of the International Ergonomics Association newsletter, and from news notices of ergonomics activities world wide, published during the last five years in the IEA news section of the journal Ergonomics. Thanks are due to Dr. Stephen Konz, Editor of the IEA newsletter for providing access to the mailing list.

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## APPENDIX

### THE ORIGINS OF THE INTERNATIONAL ERGONOMICS ASSOCIATION

By Ronald G. Stansfield

Paper presented to the 7th Congress, held in Warsaw,  
of the International Ergonomics Association  
27th August 1979

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The programme and attendance at this I.E.A. Congress in Warsaw, organised by the Polish Ergonomics Society, is sufficient evidence that ergonomics and its value is known all around the world. This, the seventh Congress of the International Ergonomics Association, and its six predecessors are proof that the I.E.A. is a flourishing and valuable body within the community of science. Twenty years after it was founded, and especially as we remember our founder-Chairman, Professor G.C.E. Burger who died on April 11th this year - an obituary will appear soon in Ergonomics - it is timely to look back at the events which led to the conception and birth of the I.E.A.

The time and place of the start of the I.E.A. are known more clearly than is the case with many other important bodies. It was on Monday 6th April 1959, in Oxford in England, at 6.50 p.m. according to my wristwatch, that a meeting of the founding committee accepted the Articles of the proposed I.E.A. and the secretary of the committee, Professor E. Grandjean, said "the International Association is founded". The task of the founding committee was complete in 1961 when the I.E.A. held its first International Congress in Stockholm; at this Congress the provisional Articles were ratified by a full gathering of the new Association and the original ad hoc committee handed over to duly elected Officers and Committee.

Clearly in retrospect, the time was ripe in the 1950s for more conscious effort and more-organised international co-operation in the area of applied science that we call "ergonomics". This was not a wholly new and unpioneered area, as for example we are reminded by the paper at this Congress by Monod and Valentin (Monod and Valentin 1979); in many parts of the world in the past physical and biological scientists, as well as engineers of various specialisations, have looked at problems of design and performance which turn on the interaction of men with tools, machines and equipment. Needs and experiences in the War of 1939-45 hastened

developments such as, for example in the U.S.A., the rapid growth of "human engineering", the founding of The Human Factors Society and The Engineering Psychology Society. A more direct antecedent of the I.E.A. was the Ergonomics Research Society (since 1976, the Ergonomics Society) founded in 1949 in the United Kingdom by anatomists, physiologists, psychologists and some other scientists and engineers who had worked together during the War and wanted to continue their co-operation to serve peacetime uses. An account of the origin of the E.R.S. was given in the first issue of the Society's journal (Anon. 1957); see also the Society's booklet (E.R.S. 1964). Initially the only society in Europe active in its particular field of interest, the E.R.S. rapidly gained a strong contingent of members from other European countries and also from North America and elsewhere (see for example the 1957 list of members, pages 94 - 99 of the first issue of the journal). Its annual Symposia, from the early 1950s, effectively became international scientific meetings.

The Society's journal, Ergonomics, was started in 1957 under the General Editorship of Alan Welford, a past joint-Secretary of the Society. This is the point to mention the publishers, Messrs. Taylor and Francis.

They and their representatives, notably the late Mr. Courtney-Coffey, have always shown much interest in ergonomics and its development and have helped in many formal and informal ways; see for example the tribute which appeared on the occasion of the 4th I.E.A. Congress at Strasbourg (Anon. 1970). In the best tradition of science publishing, they set up Ergonomics from the outset as an international journal; people from eight countries were named on the original Editorial Board. When the I.E.A. was set up Ergonomics became its official journal. While the proposals for the I.E.A. were being evolved and then while the newly-formed I.E.A. had few resources of its own, its development was made much easier through the frequent contact of the key people over editorial matters; and the journal served as a means of wider communication.

The idea of an international organisation, the idea which was to be realised in the International Ergonomics Association, was first mooted at a Technical Seminar on "Fitting the Job to the Worker" held by the European Productivity Agency in Leyden, Netherlands, in March-April 1957 (European Productivity Agency 1958). Thus the E.P.A. became a foster-parent of the I.E.A. The E.P.A. was an organ of the Organisation for European Economic Co-operation (later changed, with geographically wider membership, into the present Organisation for Economic Co-operation and Development). The O.E.E.C. came into being as part of the cooperative efforts of the countries of Western Europe, in an atmosphere of reconstruction and idealism after the destruction during the 1939-1945 War, to rebuild, restore and develop normal industrial and other life.

Its work was founded on massive support from the United States of America, support not only material and financial but also in the form of technical information and expertise in engineering and applied science.

The availability and use of engineers and scientists and of technical information was the particular concern of the E.P.A. This work had been taken over by the O.E.E.C., an official quasi-Governmental body, from much less formal initiatives and activities which sprang up almost at once after the War in Europe ended, using the existing networks of the international scientific community and based on close working contacts between key individual scientists in the various countries. One of these individuals was Dr. Alexander King, before the War a university lecturer in physical chemistry, who was drawn by the War into the U.K.

Government scientific service and later became Head of the U.K. Scientific Mission in Washington, U.S.A. Immediately after the War he occupied key scientific posts in the U.K. central administration. In close touch with similar individuals in other countries, he played a central part in developing the scientific and technical activities of the O.E.E.C.

Later he moved to Paris to join the staff of the E.P.A. and became Director of Scientific Research of the O.E.C.D. The present relevance of this is that his wartime experience, together with his thinking about post-War policy for scientific and technical development to serve the needs of industry and the wider community, convinced King that - if one looks at industrial production as based on "materials, machines and men" - science applied to industry could not continue to confine its attention to materials and machines but should concern itself increasingly with study of the "men". In the period 1945 - 1955 it was far from clear, at the level of policy discussions, just which science subjects should be involved in this study of the "men" in industry; so we find that the term used was "the study of human factors in industry". Thus in the U.K. the Government Committee on Industrial Productivity (1947-50), chaired by the eminent scientist Sir Henry Tizard, had as one of its specialist sub-committees a Panel on Human Factors. The state of relevant science and its use was well brought out in a review of the work of the Panel, appraising rather than cosmetic, by its Chairman, Sir George Schuster (Schuster 1952). Perhaps the general outside response at that time to such activities can best be described as one of marginal and somewhat sceptical interest.

Within the O.E.E.C., attention to the "men" aspect was focussed by the establishment early in 1953 of a Working Party on Human Factors in Productivity (in French, the other working language of the O.E.E.C.: "Groupe de Travail sur les Facteurs Humains de la Productivité"). This was Working Party No. 4 of the Sub-Committee for Productivity Studies of the O.E.E.C.'s Productivity and Applied Research Committee. It met at the O.E.E.C. headquarters in Paris under the chairmanship of M. Alphonse Chapuis of Switzerland and was attended by representatives nominated by the Productivity Centres of the various member countries of the O.E.E.C.

These Centres were national bodies set up jointly by Government and industry (both employers' and trade union organisations) with the purpose of studying and promoting ways of increasing industrial efficiency. The U.K. was exceptional in that there was no single national Productivity Centre; instead, the functions were distributed between several semi-official bodies and Government Departments. In particular, applied research matters fell to the Department of Scientific and Industrial Research; the present author was at that time the senior member of the small group of human sciences staff at D.S.I.R. Headquarters. It was hardly surprising, at the time the O.E.E.C. Working Party was set up, that the different participants came to its discussions with very diverse interpretations of the appropriate objectives and with varied levels of sophistication. Indeed, the chief initial value of the Working Party may well have been that the need to send representatives made the various countries more aware of the possibilities of systematic study of human factors problems, and more aware also of what had been started in their own country as well as of work going on elsewhere. One of the well-supported views put forward in the Working Party was that high priority should be given to "increasing the interest of the worker in his work, in productivity, and in the firm". The present writer remembers his qualms:



doubtless these aims were good in principle, but any practical steps towards them seemed sure to be so culture-loaded - would have to be carried out in such different social conditions in the various O.E.E.C. countries, and would be perceived and interpreted in such different ways - that to try to evolve specific proposals would be more likely to split the Working Party and bring its efforts into disrepute than to strengthen cross-national collaboration. In retrospect, this doubt was probably unwarranted; the discussions in Working Party 4 did in fact eventually lead to a major international Conference in Rome in 1956, on Human Relations in Industry (European Productivity Agency 1956). While this 1956 Conference brought together social scientists and leading people from industry and trade unions and turned out to be of real value in bringing out the varied approaches, concerns and areas of study, in 1953 there seemed to be much to be said for seeking a project which could be developed substantially in common in the various countries. Preferably this would be one which would take advantage of an especial strength of the E.P.A., its channels to influence industrial practice through the national Productivity Centres, channels designed to spread and make more effective existing knowledge and expertise. Ergonomics was known only in very limited, specialist circles; its data and findings were relatively culture-independent and its principles generally applicable.

Moreover the Ergonomics Research Society already had a network of international contacts between specialists; probably it could help in developing such a project. Working Party 4 already had before it two sketch proposals, apparently not dissimilar, one from Germany and one from the U.K., for action related to "fitting the job to the worker".

From these developed the eventual E.P.A. Project No. 335.

The next landmark was a meeting of Working Party No. 4 in Paris on 20th and 21st May 1954, attended by representatives from Belgium, France, the German Federal Republic, Italy, the Netherlands, Norway, Sweden, Switzerland, the U.K. and the U.S.A. By this time a Swiss lady, Mlle Denise Lecoultrre, had joined the O.E.E.C. staff and was dealing with the affairs of the Working Party. Ergonomics and its potentialities soon caught her interest; she has gone on from effective administration of Project 335 to much wider contributions to the development of ergonomics and specifically of the I.E.A. The original ideas of 1953 had been shaped in meetings and discussions and the May 1954 meeting had before it a proposal for "An International Conference to Promote the Use of Ergonomic Methods in Industry". The outcome of the discussion was to hold in abeyance the proposal for an international conference for industry and to make a firm recommendation to hold in the spring of 1955 a conference of 3 - 5 experts from each country. The conference was to have papers giving accounts of current activity in each country and to make recommendations for further E.P.A. activity. The task of drawing up plans for this specialist conference was given jointly to the German and U.K. delegations and the U.K. was expected to bring in the help of the Ergonomics Research Society. The question of where to hold the conference came up; thinking of a place easy for travel where there was already significant ergonomics activity, the present author suggested Leyden, in Holland. He still remembers vividly how Dr. F.H. Bonjer, of the Netherlands Institute of Preventive Medicine in Leyden, jumped in his chair; then, after a moment's pause, said "I think it might be done".

The author remembers, too, his own rapid trip in August of that year to forward the planning, not least his journey from London. The aeroplane

landed just after midnight at Frankfurt-am-Main; leaving the landing strip, one wheel ran off the edge of the taxi-ing track and sank to the axle in soft earth, immovably stuck. Eventually a fleet of trolleys arrived to rescue the passengers and carry them to the Terminal building; then the luggage had to be brought in, so that it was 4 a.m. before the author reached his hotel. He was due that morning at the German Productivity Centre in Frankfurt; then he had to catch the 14.13 Rheingold Express to Essen for dinner and discussion with Dr. C. Knott, the leading German representative on the E.P.A. Working Party, and Dr. Theodor Scharmann, psychologist in the German Federal Ministry of Labour. Their business was dealt with after dinner more quickly than expected, so the next day was free and Dr. Knott, a Director of Siemens-Schuckert A.G., invited the others to visit the Siemens factory at Mülheim. The author remembers his most instructive conversation with Dr. Scharmann in the car on the way to Mülheim. On the way back they made a detour to Dortmund to visit, not on ergonomics matters, the Institut für Sozialforschung der Universität Munster. They had no time to visit the Max Planck Institut für Arbeitsphysiologie, which was in the next building in Dortmund; that Institute had not then become involved in the E.P.A. Project. That evening they had dinner in Düsseldorf with the leaders of a team from the Institute for Social Research of Frankfurt-a-M. University which was studying attitudes to Mitberutung in a large industrial concern. The team members were celebrating the completion of a stage of the research and the author spent an enjoyable evening in a Weinstube being instructed in German student songs. Then he went to The Hague to visit the Netherlands Productivity Centre; next day the Director of the Centre, Drs. J.E. Hagen, accompanied him to Leyden for constructive talks with Dr. Bonjer and others at the Institute there. All seemed well in train for the proposed gathering next Spring; it was a disappointment when presently it appeared that plans were to be delayed.

The hitch arose from the assumption widely held in the higher levels of the O.E.E.C. administration that in all productivity matters, knowledge and practice in the U.S.A. could be expected to be in advance of that in Europe. So a project such as this had to be prepared by a visit to Europe by an American expert, followed by a European mission to the U.S.A. to learn from appropriate visits there (c.f. Cook 1951). Professor Harwood S. Belding, of Pittsburgh University, became the U.S.A. Consultant; K.F.H. Murrell, of the University of Bristol, became Team Secretary of the team of nine people from seven O.E.E.C. countries who visited the U.S.A. in the Autumn of 1956 (E.P.A. 1958). Certainly the delay had compensations. It was always good to meet "Woody" Belding, an early member and frequent attendee of the E.R.S. whose early death was a real loss to the subject of ergonomics and to his many friends in America and in Europe: the Mission returned after interesting discussions much appreciated by the people visited in the U.S.A. because they learnt of the latest work in Europe. Moreover the friendly atmosphere and effective working of the Leyden Seminar, when it eventually took place in the Spring of 1957, was helped because the participants included the Mission members who had got to know each other well during their travels and also because of Hywel Murrell's continued involvement as Rapporteur-General for the Seminar. The Seminar was a real success, marred only and trivially by the weather: most of the participants stayed in a hotel near the promenade of the seaside resort of Noordwijk-aan-Zee and were taken to and from Leyden by coach; in early April the wind was very strong, and there was snow in it.

About 70 people, from 13 countries, took part in the Seminar.

Murrell reported their work (E.P.A. 1958). It will be noticed that the title of the Seminar was "Fitting the Job to the Worker". This title, rather than something including the word "ergonomics", was chosen after careful discussion early in the preparation of Project No. 335; it was preferred because the E.P.A. was especially concerned eventually to reach as many people as possible in industry, people unlikely to respond well initially to an unfamiliar word. From the early stages of the Project, the idea was that it should culminate in a major international conference for people from industry; the Leyden Seminar did indeed provide the basis and material for this, the Conference held in Zürich two years later, in March 1959. The Zürich Conference was attended by just over 200 people, drawn from 14 different countries. About one quarter were specialists within the general field of ergonomics; most of the others came from various positions in industry, including a good trade union contingent. The General Report on the Conference (Metz 1960) was prepared by Professor Bernard Metz of Strasbourg, who had taken part in planning the Project from its early stages and went on the Mission to the U.S.A. This Conference ended the E.P.A. Project; it was left for others to follow up the contacts which had been established and to make use of the information which had been spread. The closing address to the Conference was given by Professor G.C.E. Burger; he spoke on the general conclusions reached and on the future development of "fitting the job to the worker". Here he mentioned progress made by the ergonomic scientists in setting up an International Ergonomics Association; this would shortly be founded to bring together workers in the field and in the laboratories to promote research and field studies.

The clearest continuing outcome from the E.P.A. Project is indeed the I.E.A. The specific idea for such an international body was first mooted during the Leyden Seminar. That Seminar was essentially directed to encouraging the growth of ergonomics in more countries than the few in which it was already reasonably well established, and it was not hard to see the desirability of an ergonomics society in each country to help it in its own development of the subject. Professor Karl U. Smith, of the University of Wisconsin, U.S.A., in particular felt strongly, and put forward first in informal conversation and then as a formal proposal to the Seminar, that there would be need for an international body as well as national ones, and moreover that it was already time to start to set it up. In the closing session of the Seminar, the proposal was accepted.

Those present formed an informal committee and charged it with the task of exploring ways of continuing international contact between 'human work' scientists (Stansfield 1957). The members chosen to form the ad hoc committee were:

* Professor H.S. Belding	U.S.A.	Professor G. Lehmann	Germany
* Professor G.C.E. Burger	Netherlands	* Professor B. Metz	France
Professor S. Forssman	Sweden	* Professor K.U. Smith	U.S.A.
* Professor E. Grandjean	Switzerland	* Mr. R.G. Stansfield	U.K.

Professor Grandjean was designated as Corresponding Secretary.

Most of them were due to leave Leyden as soon as the Seminar ended, so real work as a committee did not begin until the six members marked with an asterisk on the list above were all in Paris for an E.P.A. meeting of Rapporteurs engaged on planning the programme of the forthcoming Conference in Zürich.

They held their committee meeting at 2 p.m. on 19th September 1958 at the O.E.E.C.'s headquarters, the Chateau de la Muette. They were joined by others who had been at the Rapporteurs' meeting that morning and on the previous day:

Mr. D.E. Broadbent	U.K.	Mr. A.T. Welford	U.K.
Professor E.H. Christensen	Sweden	Mlle D. Lecoultre	E.P.A.
Dr. N. Lundgren	Sweden	Mlle E. Sichel	E.P.A.

Christensen and Welford were co-opted as observer-members of the committee.

The meeting had before it a draft constitution for an "International Association of Specialists on Adaptation of Work to Man", drafted by Mlle Lecoultre in consultation with the E.P.A.'s legal advisers. The first business was to choose a Chairman for the committee: Professor Burger was elected unanimously. He was obviously the right choice, for those qualities both personal and of past experience which are indicated in the obituary shortly to appear in Ergonomics. Here it need only be said that the I.E.A. has been most fortunate in him as its first Chairman.

His high standing and the personal esteem in which he was held, outside as well as within the international community of ergonomics, was very important to the early acceptance of the I.E.A. His common sense and effective leadership of a committee, his wide experience of the ways of international scientific and medical bodies as well as of international industrial organisations, and not least his ability to resolve differences between people holding conflicting interests and to lead them to work constructively together, were of the greatest importance in helping the development of ergonomics and in particular in guiding the founding committee of the I.E.A. That committee was fortunate, too, in the steady enthusiasm and competence of its secretary, Professor Grandjean, who was to continue to serve the I.E.A. as its Secretary and Treasurer after the Stockholm Congress and to maintain the impetus of its growth.

It is interesting to look back at the business done at that first meeting in September 1958. The committee decided to aim at setting up an organisation at the fully international, and not at the European, level. It looked at relations with the Permanent Committee on Industrial Medicine and other existing international bodies; no duplication was seen. The main function of the proposed organisation was seen as being to organise every two or three years a conference of quality comparable with that at Leyden. Professor Burger summed up the first stage of the discussion as agreement that:

- (i) The organisation should be based on humanitarian principles, not aimed at raising productivity or narrow industrial efficiency.
- (ii) The essence of the organisation would be that it should be inter-disciplinary.
- (iii) All present honoured the Ergonomics Research Society in the U.K. as the pioneer body, of which they were glad to be members. Nevertheless, there remained the need for an international body.

Next it was agreed to hold the first conference in Stockholm in 1961; Professor Christensen and Dr. Lundgren agreed to organise this. At this

point the committee agreed that doubts about proceeding further were removed and a start should be made - humbly, so that costs would be kept low. Mr. Welford felt sure that the journal Ergonomics would gladly give space to notices about the activities of the Association. Some members, Professor Metz especially, wanted action to encourage the formation of national committees for ergonomics; the committee decided that it was sufficient that the international conference was being organised, for this would lead to the setting up of national committees. (Such a committee was indeed set up in Sweden to provide an organising committee for the Stockholm Congress; its chairman was Dr. Sven Forssman, Medical Adviser to the Swedish Employers' Confederation).

Then the Committee had to deal with immediate matters concerning its own existence. One was its title. Professor Smith was forthright in his preference for something like "Committee for the international organisation of the work sciences"; this was opposed by various members who wanted to include the word "ergonomics", while the present author objected that "work sciences", especially in the German equivalent "Arbeitswissenschaften", including e.g. industrial sociology, was too broad for the intended range of interests. Eventually the name "Committee for international association of ergonomic scientists" was adopted. Officers were elected: Chairman, Professor Burger; Secretary, Professor Grandjean; Treasurer, Professor Smith. Finance: the Treasurer needed the adoption of a provisional constitution, to provide a corporate letter-head so that he could open a bank account in the U.S.A. and could explore possible sources of finance. The draft constitution before the meeting was provisionally adopted; it was agreed to find out in which country it would be best to register the Association in order to minimise difficulties with currency regulations. Finally the committee agreed to meet again in Zürich on the occasion of the E.P.A. Conference there; it would then revise the proposed constitution in the light of comments on the provisional version.

The task of the historian is never easy. Organisations are built of men and women who have their friendships and jealousies, their individual attitudes and interests, their collaborations and rivalries; these intangibles go to shaping the course of events. The I.E.A. is no exception, but it has been fortunate in experiencing no major storms during its infancy and by comparison with other international organisations its origins may well seem relatively open to view and well documented. The crucial decisions in shaping the I.E.A. were taken at the meeting in Paris on 19th September 1958, and the rest of its early history can be dealt with briefly in this paper. Certainly there was much consolidation to be done and details to be worked out; the people involved were widely dispersed and this would be slow. But time could be taken; the new body would not really take shape until the founding committee's provisional arrangements were confirmed and taken over by a full assembly of the new I.E.A. at its first Congress. The preparations for this Congress were going ahead, and they were in capable hands. The Congress would be held in Stockholm in the Summer of 1961.

When the committee met at 8 p.m. on 4th March 1959 in Zürich at the Eidgenössisches Technisches Hochschule it decided on the title for the new organisation: "The International Ergonomics Association". This was preferred, partly on grounds of brevity, to a rival proposal, "International Association for Biological Sciences of Human Work",

especially as Professor Metz said that the term "l'ergonomie" was becoming used in France, Professor Lehmann saw "Ergonomie" as coming into use in Germany and Mr. Welford reported that "ergonomics" would be included in the next edition of the Oxford Dictionary (the most authoritative English dictionary). A difficult question was that of membership of the new Association: should it have individuals as its members, or should the members be national bodies to which individuals belonged? If the latter, how could individuals be catered for in countries in which no national body yet existed? That problem appeared to be too difficult, for the time at least: I.E.A. membership would have to be individual. It was decided that the official seat of the organisation should initially be Zürich; registration was easy under Swiss law. Finally, the committee agreed to meet again in Oxford during the forthcoming Annual Symposium of the Ergonomics Research Society.

At the Oxford Symposium there came to a head a matter to which both the Council of the E.R.S. and the I.E.A. founding committee had earlier given much attention. It had become a long-standing tension within the Ergonomics Research Society. At Leyden when the idea of the I.E.A. was first raised and subsequently, some members of the E.R.S. had been against the creation of a new international body. They felt that it would merely duplicate what the E.R.S. had already become, a body with international membership (about a third of its members were resident outside the U.K.) whose conferences were international events; these people had not been closely involved in the E.P.A. activities leading up to Leyden or in the discussions afterwards and perhaps did not fully realise the changes that must come about as local groups of ergonomists developed to a size that would lead them to want national societies of their own. They had had little occasion to think about the problems which would increasingly arise if the E.R.S. tried to maintain a dual role as a national society and an international body. Some of them had contributed much to the birth of the E.R.S. and to its growth to a flourishing state; naturally they were jealous of anything which might seem to spoil this success. Another fear also appeared: the representative present from the American Psychological Association in particular feared that psychologists were inadequately represented on the committee of the new body. The tension was ventilated at the Annual General Meeting of the E.R.S. on 8th April 1959. There was full discussion of the relationship between it and the proposed I.E.A.; the present author's note, written at the time, reads: "This was handled with considerable diplomatic skill by Professor Burger, who described the setting up of the Association and its aims, by Dr. J.S. Weiner (who was chairman of the meeting) and by Mr. A.T. Welford." The discussion was made easier because the E.R.S. had been kept fully informed of developments throughout the E.P.A. Project - its Council included persons deeply involved in these developments - so that Dr. H.G. Maule read to the meeting on 8th April the Council's Minute of February, 1957 that "the Society is willing to co-operate fully in the development and running of any international body formed to co-ordinate similar activities". After this meeting the crisis between the E.R.S. and the I.E.A., if it were such, was over; the new situation became accepted.

The founding committee of the I.E.A. met twice during the E.R.S. Symposium, gathering in the Library of the Oxford University Department of Human Anatomy. Professor Christensen, Miss Lecoultre, Dr. Schmidtke and Mr. Welford were present as observers. The first meeting was at 3.45 p.m. on Monday 6th April 1959. It had a draft by Professor Burger of a Statement of Aims of the new Association; with some amendment of detail, this was agreed for publication (Anon. 1959).

The committee broke off at 4.55 p.m. to hear the opening address to the E.R.S. Conference; this was given by a Cabinet Minister in the U.K. Government, the Postmaster General. The committee resumed at 6 p.m. to go in detail through the draft of the Articles of Association which had been prepared by Professor Grandjean after the members' comments on the earlier version. With some amendment, these Articles were agreed; as Secretary, Professor Grandjean was able to say at 6.50 p.m.: "The International Association is founded". The committee met the second time on April 7th when it resolved the problem of who should form the initial membership of the I.E.A. until the time when the Stockholm Congress could regularise a basis for membership. Minute 5 reads: "It is further decided that all the members having been designated at the Leyden Seminar as the Steering Committee shall be considered now as the provisional Committee of the International Ergonomics Association. The Committee will not take new members until the next meeting". The climax of the Oxford discussions was recorded in the Secretary's document, headed: "PROTOCOL Foundation Meeting of the International Ergonomics Association". Item 4 recorded that the Committee corrected "the draft articles of the statutes and the present members accept them unanimously"; "The members who were charged in Leyden with the organisation of such an international body take this decision and therefore the responsibility of this foundation. These members are: Prof. Burger, Prof. Lehmann, Mr. Stansfield, and Prof. Grandjean. Prof. Metz who is absent gave previously his agreement by letter. The key words in the Protocol were underlined:

"The International Ergonomics Association is therefore considered to have been founded."

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